

## **INSTRUCTIONS FOR THE DESIGNER**

### **1. Technical Criteria and Instructions:**

The following list of criteria and instructions are mandatory requirements for the performance of any work identified in the Scope of Architect-Engineer Services under this contract. The criteria and instructions are available upon request through the Baltimore District design manager (DM).

- a. Corps of Engineers, "Architectural and Engineering Instructions, Design Criteria," 3 Jul 94.
- b. Corps of Engineers Guide Specifications for Military Construction. A list of these will be provided to the AE for selection of the relevant specifications. Guide Specifications are available for downloading from the Corps Computer System. The AE shall use current editions available at the time of submission of the final design.
- c. Baltimore District "Instructions and Guidance to Architect-Engineers for Military Construction" for the following disciplines:
  - (1) Landscaping - 6 Oct 94
  - (2) Architectural - 9 Sep 96
  - (3) Cost Engineering - 10 Sep 96
  - (4) Site Development - 30 Jan 97
  - (5) Military Utilities - 4 May 94
  - (6) Mechanical/Fire Protection - 26 Sep 94
  - (7) Electrical - 6 Sep 96
  - (8) Foundations & Pavements - 1 Mar 96
  - (9) Structural - 30 Jan 97
  - (10) Automated Technical Management (Specifications and Drafting) - 16 Jan 97
- d. ER 1110-345-700, "Design Analyses" - 30 May 97.
- e. Installation Design Guide (provides specific installation guidance for site planning and features and exterior architectural characteristics).

### **2. Conduct of Work:**

During the performance of this contract, the AE will maintain close liaison with the DM who will coordinate the work with the using agency and other concerned parties. The AE will:

- a. Execute the work diligently and aggressively, and promptly advise the DM of all significant developments.

- b. Contact the installation prior to starting his field investigation and coordinate subsequent visits to the installation with the appropriate installation personnel. Records of all visits to the installation shall be kept by the AE and will be provided to the DM upon request.
- c. Prepare complete minutes of each meeting and significant telephone conversation with Government representatives, and furnish a copy to the DM and to all participants within seven working days of the conference. All minutes will also be included in the final design analysis report.
- d. Promptly furnish to the DM copies of all written communications pertaining to the work received from other Government agencies.
- e. Take appropriate measures to obtain clarification of design criteria requirements, to acquire all pertinent design information, and to incorporate such information in the work being performed. These actions will be accomplished through the DM.
- f. Not react to any instructions from the installation or using agency which will affect the scope of the project or deviate from Corps and/or standard industry standards without first seeking and obtaining direction from the DM. The AE will not perform any additional services without prior written authorization of the Contracting Officer.

### **3. Quality Control:**

The AE is responsible for the professional quality, technical accuracy, and coordination of all documents and other services. The AE is required to have a logical and functional quality control program to assure that errors and deficiencies in all submittals are minimized. To meet this requirement, the AE will perform technical and interdisciplinary reviews and correct all errors and deficiencies in the documents prior to submitting them for review.

### **4. Progress Schedule:**

Within seven days after the receipt of authority to proceed, the AE will provide the DM a schedule showing the major milestones for performance of the project including the submittal dates. The schedule can be a bar chart and will incorporate a time scale. The periods for coordination of the design between the disciplines and checking by a professional will be shown. The AE will identify who will be responsible for the work and who will check it. If any of these professionals are changed, the DM will be immediately notified in writing. The AE will update the progress schedule at the end of each month and will immediately deliver it to the DM.

## **5. Economy of Design:**

The AE will prepare all designs in the most economical method appropriate. Unnecessary refinement and embellishment will be avoided. Throughout the design, the AE shall analyze each of the various disciplines or work for the purposes of achieving the required mission or function at the lowest overall cost consistent with desired performance and quality requirements. In some cases, the AE may determine significant savings are possible by changing standard criteria. The AE will notify the DM in writing of these possible variances and savings but shall continue the design employing standard criteria until directed to do otherwise.

## **6. Environmental Compliance and Permits:**

During the performance of this contract, the work must comply with all federal, state, local and installation environmental laws, regulations, and standards. The AE will determine all construction and operating permits required and provide the following information to the DM with the first submittal:

- a. Permitting authority.
- b. Type of permit required (construction/operating).
- c. Procedure and time necessary to complete the permit application.
- d. Fees required.
- e. Statement that the project is covered by variances or that a permit is not required.
- f. If variance is required, describe procedures on how it will be obtained. If a permit is not required, furnish reasons and supporting justification (cite appropriate regulations).
- g. If an operating permit is required, evaluate all state and/or local regulations to determine if monitoring devices are needed. Where required, emission monitoring devices will be included in the project design.

If operating and/or construction permits are required, the DM will be provided the completed permit applications no later than the 60 percent design point.

The AE shall also determine if any utility connections are required for facilities that are not being constructed on a military installation. The AE shall provide a list of each utility, the utility company or government agency providing the service, and a point of contact at the company.

## 7. Drawings:

Drawings will be prepared in strict accordance with Baltimore District "Instructions and Guidance to Architect-Engineers Automated Technical Management (Specifications and Drafting)." Drawings will be prepared on standard 28" x 40" Corps of Engineers drafting medium. The drawing number will be provided by the Corps during the first review. Drawings must be easily readable when reproduced at one-half size. The cover sheet will be signed and stamped by a principal of the firm (Professional Engineer or Registered Architect) when the final drawings are completed. The level of detail presented in the drawings must be sufficient to allow construction contractors to prepare fixed-price bids for the work without visiting the construction site. As an example, references to areas for demolition with vague notes such as "Contractor shall be responsible to remove all equipment" with no listing or portrayal of what the equipment.

## 8. Specifications:

Specifications will be prepared in strict accordance with Baltimore District "Instructions and Guidance to Architect-Engineers-Automated Technical Management (Specifications and Drafting)." The concept design submission will include an "outline specification" which is a list of technical specifications proposed, a summary of any deviations from Corps guide specifications, and a description of the salient features of construction.

The specifications for the final submission will provide annotated and edited guide specifications with the portions of the guide specifications that are to be deleted to be crossed off. The deleted portion of the guide specifications will be legible to determine what has been eliminated. Sections modified to comply with specific project conditions will be clearly and completely shown.

The backcheck submittal will contain complete specifications based on the annotations and editing, and any custom specifications developed for the project. The final specifications will be neatly prepared on 8 (1/2)" x 11" bond paper.

The final submission will also include a completely prepared Submittal Register, ENG Form 4288. **The use of trade names and proprietary items in the specifications is strongly discouraged.** If necessary, their use must be brought to the attention of the DM early in the design development with supporting rationale so that the necessary approvals can be obtained. The specifications shall be prepared on a word processor that is compatible with Microsoft 6.0.

## **9. Cost Estimates:**

Construction cost estimates will be prepared in strict accordance with Cost Engineering Branch's "Instructions and Guidance to Architect Engineers for Military Construction". Cost estimates will be prepared using the Micro-Computer Aided Cost Estimating System (M-CACES **Gold**) unless otherwise instructed by the DM. The DM will provide a copy of the M-CACES software and instruction manual. Each submittal shall include a floppy disk containing the M-CACES project files along with the printed M-CACES estimate. TM 5-800-2 "Preparation of Cost Estimates Military Construction" will be used as a basis for estimating methodology. Estimates shall reflect realistic current prices for labor, material, and equipment, which shall be broken down separately. Back-up data shall include quantity computations of major items and supplier's quotations for major equipment and material items. Unsubstantiated lump sum costs for major items will not be accepted. Cost estimates at all phases of design will be organized according to the following standard Army cost classifications: K (repair and maintenance), L (alteration and new construction), and M (equipment in place). The DM will provide specific guidance on classifying the elements of work. A one-page summary of the estimate showing major work divisions (CSI division) by K, L, and M components is required with each submittal.

## **10. Design Analysis:**

The design analysis will be prepared in strict accordance with ETL 1110-345-700 "Design Analysis," and the Baltimore District instructions for each engineering discipline. All calculations, criteria, design references, assumptions, and design values should be presented. All key design decisions will be discussed including presentation of economic factors. The design analysis should be complete and well organized so that a person not familiar with the project can still follow the AE's thought process on a step-by-step basis. The scope of work will be included at the beginning of the design analysis as well as a table of contents. Narrative discussion of the scope, background, design alternatives, solutions, and field findings should be included. The analysis will also discuss any energy conservation opportunities observed by the AE during the course of the design development. Generally, proprietary materials, systems, and processes will not be specified nor competitive items used in ways that might be restrictive to competitive procurement. In the unusual event that such use may be warranted, the AE shall provide a suitable rationale so the DM can secure the necessary approvals. The AE shall alert the DM as soon as the need for proprietary items becomes evident to allow the DM the maximum possible time to secure necessary approvals. The AE shall ensure that the competitive items satisfying the design requirements also comply with the construction contract clause entitled "BUY AMERICAN ACT - CONSTRUCTION MATERIALS."

## **11. Bar Chart Schedule:**

The AE is to prepare a Bar Chart Schedule for the project to indicate construction milestones and confirm the estimated construction duration. Durations shall be in calendar days. Submittals shall be reduced to 8 (1/2) x 11" sheets.

## **12. Submittals and Reviews:**

All submittals must bear identification of stage and date (e.g. Concept Submittal - 30 Mar 1998) on the cover of each document. The design submittals will be given a cursory review by the Government for technical correctness, functional adequacy, biddability, and constructability. Reviews will usually be accomplished within four weeks, and all comments will be provided in writing to the AE. The AE will incorporate all review comments at no additional fee or justify non-compliance. A detailed written reply to all comments will be furnished with the next scheduled submittal or earlier if required by the DM. The reply will specifically address how each comment was satisfied, citing drawing and specification references. Responses such as "Will Comply" are unacceptable. Should clarification be required or exception taken to any comment, the AE must communicate with the DM within five working days of receipt of the comments. Onboard review meetings may be held at the Baltimore District or at the project site as indicated in the Scope of Work. In the event the quality of a submittal is so deficient that significant departures from the requirements of the project scope or design criteria are noted, a resubmission may be required. The cost of such a resubmission will be borne by the AE for the expenses of the preparation and furnishing of the resubmission. A determination will be made on a case-by-case basis of whether or not Government costs of the review of the resubmission will be charged to the AE. Consult the Scope of Services to determine if this project will utilize Automated Review Management System (ARMS). The Sacramento District Corps of Engineers is the Technical Center of Expertise for ARMS and operates the system. In that role, Sacramento will provide software and documentation for use by the AE. The AE shall become proficient in the use of the system for interaction with the Sacramento District. At the completion of each stage of review, the Baltimore District will forward review comments to Sacramento via Internet connection. The AE must download, annotate, and upload each set of comments via modem or direct Internet connection (at the option and expense of the AE) with Sacramento District. Assistance from the Sacramento District is available if required to accomplish the mechanics of the system. The Design Manager is also available for assistance as required.

### **13. Responsibility after Design Completion:**

The AE is required to support the District should errors or omissions in the documents create problems in bidding or administering the contract for construction. The support provided by the AE shall take whatever form is necessary to correct the errors or omissions in the original documents. The corrections shall be done in a timely manner at no additional cost to the Government. The AE shall incorporate amendment changes on the original drawings when requested to do so after the bidding process. Also, during the bidding period, the AE is required to assist in answering all bidder inquiries pertaining to the design. If clarifications are required, the AE will prepare the required amendment. The AE, however, shall not receive or respond to any direct inquiries from bidders. All inquiries or responses shall be through the DM.

### **14. Review of Shop Drawings:**

The AE shall check contract submittals in connection with the construction work to assure that they conform to the drawings and specifications, approving those drawings, which are satisfactory, and furnishing clear, concise comments in writing for those submittals which are disapproved. The AE will analyze and verify the adequacy of any detail not completely shown on the contract drawings. All submittals will be checked and returned within seven calendar days after date of receipt. The AE will employ only qualified personnel who are thoroughly familiar with all phases of the project. The AE shall pay particular attention to the construction contract clause entitled "BUY AMERICAN ACT - CONSTRUCTION MATERIALS" to ensure approved materials comply with that clause as well as being technically in compliance with the specifications. This clause is difficult to interpret in some instances, and the AE must consult with the Baltimore District Construction Division if assistance in interpretation is needed.

Failure to comply with the BUY AMERICAN ACT will be basis of rejection of submittals of the construction contractor. Failure by the AE to evaluate compliance will be not be a basis for adjustment of the negotiated cost for Shop Drawing review in the event lack of evaluation results in review of additional submittals by the AE.

### **15. Site Visits during Construction:**

During the construction period an approved representative of the AE will make visits to the project site when directed by a duly authorized representative of the Contracting Officer. A written report will be submitted to the Construction Division within five working days after each site visit (with a copy to the DM) which describes the purpose and the results of the visit. A separate site visit will be authorized for each representative

of the AE and for each day the representative is required to be present at the site.

**16. DD Form 1354, Transfer and Acceptance of Military Real Property:**

The AE shall prepare this form in accordance with instructions which are available from the DM.

**17. Progress Payments:**

Requests for payment shall be submitted on ENG Form 93 along with a narrative describing progress of work for each billing period. The original ENG Form 93 shall be submitted directly to the Examination Section, Finance and Accounting Branch, Resource Management Office of the Baltimore District Corps of Engineers. A copy of the invoice shall be submitted directly to the DM for design phase services. A copy of the invoice for construction phase services shall be provide directly to the construction manager. The name of the DM or the construction manager shall be placed on the form. The contractor shall comply with the following additional requirements:

- a. A separate ENG Form 93 shall be prepared for each delivery order of an Indefinite Delivery Type Contract. The delivery order number shall be noted in Block 10 of the form.
- b. *Payment requests shall be submitted separately for Design Phase Services and Construction Phase Services.*
- c. *Failure to provide a correctly prepared request for payment shall be a basis for return of the request without payment. Payment shall be withheld until a proper request is received.*
- d. Final payment for design services will be processed when the construction contract for which the design has been prepared has been awarded. In the event a project is not bid, final payment will be processed when all the originals documents are complete and delivered.

**18. Federal Information Processing (FIP) Data Analysis:**

The purchase of FIP resources requires a documented investigation of the nature, extent, and cost of the resources, which is in turn subject to administrative review within Corps of Engineers' channels. FIP is any piece of equipment that contains a computer or microprocessor or equipment that may support its operation. Included will also be the purchase or the creation of any software to be used in this project. The AE shall prepare and submit a list of all equipment and its associated cost that is considered FIP.

## **19. Value Engineering:**

Value Engineering (VE) is an organized effort to analyze features of a design project for the purpose of obtaining essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety. A VE study of this design may be conducted. If so, the designer shall assist the VE effort by:

- a. Providing a presentation of the background of the design to the VE contractor at concept design submittal stage. The presentation shall include an overview of design decisions, criteria that has proved to be unchangeable to date, and design opportunities foregone for various reasons. The briefing will be in the Baltimore/Rockville, MD area and shall be attended by the AE project manager and prominent discipline professionals. The briefing will be of approximately four hours in duration.
- b. Attendance at an informal presentation of the preliminary results of the study in the Baltimore/Rockville, MD area. The briefing will be of approximately two hours in duration on the afternoon of the last day of the study and should be attended by the AE project manager and prominent discipline professionals.
- c. Review of the formal VE report and submission of assessment comments for each proposal to the design manager. That review will require approximately eight hours of time for the project manager and each prominent discipline professional.
- d. Attendance at and participation in the formal presentation of the VE study report. The presentation will be in the Baltimore/Rockville, MD area and shall be attended by the AE project manager and prominent discipline professionals. The briefing will be of approximately four hours in duration.
- e. Providing periodic feedback to the design manager of the extent of incorporation of VE proposals and the current estimated construction cost of the proposals.